An Essay
on
Diptheria

Respectfully Submitted
to
The Faculty
of the
Homeopathic Medical College
of
Pennsylvania
For the degree of Doctor of Medicine
by

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Introductory

There is probably no pursuit or occupation of life that has not in some form its unpleasant events and perhaps no one can bear testimony to the truth of this assertion better than the Physician

If there be any one event in the Students life which is more likely than any other to be remembered as decidedly unpleasant

it is undoubtedly the writing of his "Thesis" For months he looks forward with a feeling dread to the day when the document must be handed in

The difficulty of finding something new to write on combined with the fact that his production will be read and criticized by the very men whom of all others he wishes to please induces him to defer it as long as possible But the demand must be met The requirement of a thesis is one of the long established customs of medical schools and one with which the Student must comply In doing this a few words in regard to the object of the requirement and the nature and character of the production will not perhaps be considered out of place

The object of our teachers in making this demand is if we rightly understand the matter to obtain proof of our ability to understand correctly and practice scientifically

and therefore with success the profession we have chosen It is a point in the evidence which must be furnished during the session and at the final examination of the attention with which he has listened to and the carefulness with which he has stored his mind with the instructions so clearly and emphatically set forth by the different chairs To see that their efforts for his advancement have not been in vain that the seed has fallen on good ground which shall bring forth to his own honor and the welfare of his patrons Surely nothing can be a greater recompense to a teacher than the assurance that his efforts have been appreciated and understood This then we conceive to be the object of the demand we will now consider briefly its nature In our humble judgment it is not made with the expectation of bringing

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forth from the mind of the young and inexperienced candidate new and important facts in medical science which have escaped the searching minds of those grown grey in the profession It would be presumptious to think him capable of plunging into the uncertain depths of research and investigation which have so often lured on to disappointment the master minds of the profession and bringing therefrom laurels for which they have sought in vain

Scarcely a week passes without our attention being called to some new medical work just issued from the press and written by some one of the many learned and scientific men with which the profession is adorned Amidst this profuse display of acknowledged talent is it to be presumed that the novice shall be able to give to the profession important facts in medical science which

have escaped the notice of those who are so infinitly beyond him in years and experience

With this view of the matter two courses are left for the Student to pursue One is to arrange and compile in a systematic form the knowledge he can obtain from books combined with his own observations and instructions received from the Faculty on some particular disease or subject connected with medicine so as to form a complete monograph on his subject Or abandoning this course as too common he may endeavour to build a beautiful castle of theories which may be totally demolished by some single and apparently insignificant fact that has escaped the writers observation We purpose to pursue the former of these two courses and we are led to this choice by the fact that medical literature is already overrun with theories the effect of

which is to confuse the student more than everything else that he has to encounter

Viewing the undertaking in this light we enter the lists with the intention of fulfilling our duty to the best of our ability And we warn the reader who has had the patience to follow us thus far that if he continues on with the expectation of finding anything absolutely new we will not warrant the fulfilment of his expectations

When an epidemic makes its appearance in any locality the interest felt in the history symptoms and treatment of the disease both by the profession and community is in direct proportion to its prevalence and fatality

That the disease we now propose to consider is worthy of the careful attention of the profession will not we presume be disputed by any one who has been so unfortunate as to meet with the severe form of the malady

A brief outline of its history may not prove uninteresting On its appearance in this country in 1857 it was for a time considered a new disease but a careful scrutiny of some of the old authors reveals the fact that so far from being a new it is the reappearance of an old and often described disease The descriptions of the authors differ somewhat but the characteristic symptoms are similar in all

The earliest description we have is by Aretaeus a physician of Rome In the year 1337 Holland was visited by a disease very similar to the Diphtheria of the present day

Hecker alludes to its prevalence in England in 1517 and in 1557 nearly all Europe was ravaged by the disease In 1576 a very malignant form of it again invaded Paris About the same time it prevailed throughout Spain and by the Spanish writers was called

Garrotillo from the singular manner in which it produced death. We hear nothing more of the disease until 1743 when it reappeared in Paris and prevailed to a considerable extent during the five succeeding years Descriptions of this epidemic are furnished by Malouin and Chomel At the same time it raged with great severity in England and in 1762 prevailed throughout Sweden

Its first appearance in this country was in 1771 at which time it was described by Dr Bard of New York In 1826 Bretonneau of France published the most elaborate treatise on Diphtheria which had yet appeared The symptoms as given by Bretonneau correspond very closely with those of the same disease as it has prevailed in this country during the last four or five years

We have no authentic account of the existence of the disease on this continent from the time of its description by Dr Bard until 1857

In the month of December 1857 Diphtheria made its appearance in the city of Albany N. Y. where it prevailed with great severity and was for a considerable time known only as the "Albany sore throat" From Albany it extended quite rapidly over the Eastern and Middle states and thence more slowly southward

Like most other diseases which prevail epidemically Diphtheria presents in different localities and under the influence of various circumstantial conditions the most varied and numerous combinations of symptoms

In the enumeration of the symptoms and the order of their occurrence we shall endeavour to record them as generally presented and afterward mention the most frequent deviations from this course Some writers have seen fit to divide the disease into five or six varieties We deem this entirely unnecessary

I shall not therefore describe the different varieties as they are given by authors but shall be content with describing the disease in two forms the mild and severe or simple and malignant

Diphtheria most frequently attacks children or those under twenty years of age The mild form of the disease generally commences with the symptoms of a slight catarrhal fever The patient feels languid and is inclined to keep a recumbent position He has wandering dull aching pains in the back and extremities Occasionally there is slight headache The pulse is a little accelerated but neither hard or full There is frequently a thin white coat on the tongue and almost always an entire loss of appetite The parotid and submaxillary glands may be swollen but this is not always the case The patient may and very likely will complain of some soreness of the throat or difficulty in swallowing Of course no physician will

leave a patient complaining of these symptoms without having examined the throat internally as well as externally and in Diphtheria it is here that we find the only pathognomonic symptoms of the disease The faucial mucous membrane we discover to be in an inflamed condition and of a darker color than in simple faucitis the tonsils are somewhat swollen and present on their most prominent part one or more thin film like spots of a whitish color and varying in size from the head of a pin to a half dime When the membrane is to be seen on one side only it is generally the left These small and to the careless observer unimportant spots are the embryotic false membranes which will be developed in the progress of the disease By one that had never seen the disease the membranous spots at this stage might very naturally be taken for mucous but to those at all conversant with the malady no such

mistake could occur At this stage of the disease the local symptoms seem of secondary importance and not suppicient to account for the constitutional disturbance As the disease progresses however the constitutional phenomena do not keep pace with the developement of the local symptoms

Deglutition begins to be more difficult the pain in the throat remaining about the same The pulse becomes more frequent toward evening and there a remission of all the symptoms each morning The false membrane the characteristic feature of the disease increases in thickness and extent and not unfrequently appears on the posterior wall of the pharynx varying in thickness from one to two lines and of a dirty white or ash color Its development continues from two to five days When it begins to disappear small pieces of it are occasionally thrown off and shreds of it becoming partially detached produce a tickling

sensation which excites a hacking cough The portions of mucous membrane from which the exudation has been removed has a dark and congested appearance Simultaneous with the disappearance of the membrane the soreness and swelling abate deglutition becomes easier and the appetite improves The constitutional disturbance however seems to linger sometime convalescence being quite tedious the patient seeming to recover almost as slowly as after a course of typhoid fever

The severe or malignant form of the disease may set in in one of two ways The most frequent is that in which the disease is ushered in by severe chills pains in the head and limbs nausea and occasional vomiting of the ingesta with soreness of the throat and difficult deglutition The parotid and submaxillary glands are sometimes swollen

but this condition is by no means constant
The tonsils are considerably swollen and each
generally presenting a patch of the diphtheritic
membrane frequently the size of a dime The mu-
cous membrane not covered by the exudation is seen
to be inflamed and of a dark color

In a great majority of cases characterized
at the invasion of the disease by the above symp-
toms the febrile reaction which at first was
of a synochal character soon assumes a marked
typhoid form The pulse from full and bounding
becomes small and frequent the white coating of
the tongue changes to brown and frequently cracks
there is epistaxis or a continuous discharge
of a sanious and excoriating character from
the nose The membranous patches increase
in size and extend to the soft palate
and pharynx There is an entire loss of appe-
tite the patient wishes to be left quiet and is

disposed to sleep the greater part of the time He complains of but little pain and that in the throat the strength decreases rapidly and the patient dies from exhaustion unless kept up by stimulants

In the second mode of invasion where we have the disease presenting its self in a malignant form and which in some localities is its most common manner of appearance there are no perceptible precursory symptoms the disease approaching in a very insidious manner The patient apparently in good health complains of a slight pain and an uncomfortable sensation in the throat On examination of the fauces shows the tonsils slightly swollen and often completely covered with false membrane There is but little difficulty in swallowing the pulse is but little accelerated and the patient is about the house

As the disease progresses which it generally does with considerable rapidity the tonsils continue to swell rendering deglutition more difficult and painful the membrane becomes thicker darker of more consistence covers the fauces entirely and thence extends to the larynx and trachea becoming what some writers have designated the croupal variety of the disease In this condition there is complete aphonia and laborious respiration The fetor of the breath which had previously been slight increases rapidly the patient becomes very restless there is continuous thirst the lips begin to look blue and the patient soon dies from asphyxia with all the symptoms of the last stage of croup Occasionally the patient throws off detached portions of the membrane which affords temporary relief and encourages anxious friends and perhaps the physician also to look for a

speedy recovery Their hopes however are destined to early disappointment the membrane is speedily reproduced and the progress of the disease continues as already described We have seen a cast of the internal surface of the trachea expectorated which measured three and a half inches in length In patients past the age of puberty the croupal form of the disease is attended with much less danger than in those who have not reached that age This is undoubtedly owing to the change in the vocal organs which takes place at puberty In some cases the tonsils and uvula become swollen to such an extent as to produce suffocation before the membrane has extended to the larynx

The essential difference between the two severe forms seems to consist in the early appearance in one of marked typhoid constitutional symptoms while the local or throat-

symptoms seem of a mild character and of secondary importance While in the second form the Local symptoms supersede in importance the apparent constitutional disturbance In the first instance producing death from exhaustion of the nervous power and in the latter from the extension of the membrane into the air passages In some localities the diphtheritic exudation seems confined to the fauces and larynx while in others the nasal mucous membrane is its favorite seat

In some few cases a rash closely resembling rubeola makes its appearance somewhat suddenly first on the face and thence extending downward The disease varies very much in its severity in different localities as well as in different cases in the same locality In one town almost every case terminates fatally while in a neighboring

town presenting an equal number of cases all have recovered This difference in fatality is not generally owing to the treatment as we will see hereafter but is probably owing to local influence although we are as yet ignorant of its character or origin

Like other diseases which prevail epidemically diphtheria has a tendency to impress its character upon and complicate other diseases occuring during its prevalence This is especially the case with scarlatina and other angeose affections It has been asserted by some writers on diphtheria that in persons sick with this disease the removal of a portion of the skin would result in a very short time in the formation of the diphtheritic membrane on the denuded surface This we have never seen all the other symptoms enumerated we have seen repeatedly There can be little if any difficulty

in the diagnosis The disease has been confounded with scarlatina but the early appearance of the exudation and the absense of the scarlet-eruption we should deem sufficient to prevent anything of this kind It has not unfrequently happened that physicians on being called to their first case of the disease have mistaken the membranous patches for ulcers and have treated the case in accordance with this diagnosis The distinction between the two is so easily made out that this mistake should never be made by one that has ever seen a case of Diphtheria The ulcer upon a mucous surface always presents a distinct excavation while the diphtheritic patches are raised above the surrounding mucous membrane

In post-mortem examinations of patients dead of Diphtheria the tonsils uvula velum palati and pharynx are found covered with a white fibrinous exudation In some cases instead of

being of a pearly white the membrane is of a dark ash color which once led to the conclusion that these patches were portions of the mucous membrane in a gangrenous condition When the disease extends to the larynx and trachea these parts are also found covered with the fibrous membrane The consistence of the membrane varies according as it contains a greater or less proportion of fibrin

When the membrane extends into the larynx it cannot be distinguished from the membrane of true croup but the deposit on the mucous membrane of the pharynx is more of an aplastic character than that of croup

Much controversy has arisen both in this country and in Europe in regard to the cause of this terrible disease From a report of the French and English commission appointed to inquire into and investigate the

causes of Diphtheria it would appear that the original cause was in the presence of decomposing animal excreta combined with the deleterious influence of bad sewerage In addition to these causes it was found that insufficient food and want of proper ventilation together with the many other common causes of disease with which the poor of our large cities are surrounded exert a very great influence both in the propagation and severity of the disease We have seen many things in our little experience with the disease contradictory of the above causes a few of which we will mention The first appearance of the disease in this Country in 1857 was in a city not by any means noted for filth The time of its appearance was mid winter when the causes mentioned above would have comparatively little influence Again the disease has prevailed with great fatality in many of our elevated inland towns noted for

their salubrious climate It has also prevailed with equal violence throughout the thinly populated portions of country far from the unhealthy atmosphere of large cities These and other facts lead us to the inevitable conclusion that the influence of "decaying animal excreta" in the production of Diphtheria is not sufficient to warrant the conclusion which ascribes it as the prime cause We think the cause is yet to be discovered The probability is that the gentlemen appointed to inquire into its causes were unable to ascertain the real cause and not wishing to publish their ignorance on this point ascribed its production to an influence which operates to a greater or less extent in all diseases

Diphtheria is much more frequent and fatal in children than in adults and this seems to be the case with all acute anginose affections It prevails most in spring and fall especially the latter

There has perhaps been as much controversy on the point of contagion as on the cause of Diphtheria and about an equal amount of evidence can be produced to support either side of the question

If a contagious disease is merely a disease which may be taken by contact with the diseased part Diphtheria is contagious but if a contagious disease is one which can only be produced by its like as variola which can only be produced by variola then Diphtheria is not contagious for contagion is not necessary for the production of the disease Contagion of itself alone is seldom sufficient to produce the disease it must have combined with it the influences which acted in the production of the first case

The prognosis is difficult the age of the patient will assist us very much as it is more favourable in adults than children The ability of the patient to swallow will also aid very materially in our prognosis and treatment

Treatment

Homeopathic physicians are far from united in regard to the treatment of Diphtheria and we shall perhaps offend the professional reader on this point The remedies which have been used are quite numerous We will mention Merc. bijodatus, Bell, Cantharis, Rhus. tox Ars Capsicum Sulph & Nitric acids, Bromine Iodine Kali, bi chro. Tart. emetic Lach. &c Perhaps the remedy most in favor with Hom. physicians at the present time is the Merc. bijodatus

The preparations of Mercury and Iodine have been used ever since the first appearance of the disease in this country

During its prevalence in Albany in the winter of 57 & 8 Dr Paine a Hom. physician of that city treated a hundred and sixty cases of the disease and lost but three His remedies in almost every case were the Iodide of Mercury

and Belladonna Dr Paine read an article on the treatment of Diphtheria at the annal meeting of the American Institute of Homoeopathy in 1858 which was afterward published in the proceedings of said Institute Dr Paines treatment was quite generally adopted by Homoeopathic pratitioners throughout the country and with varying success Gradually the Bin-iodide has been substituted for the Iodide of Merc. and now stands most in favor with physicians The low preparations are generally prefered Belladonna has been extensively used and is a remedy which seems always indicated by the local symptoms but physicians differ very much in their opinions in regard to the efficacy of it By some it is used at the present time while by others it is totally discarded Canthais is a remedy which has many of the symptoms of Diphtheria and is used quite extensively by Homoeopathic physicians especially those of Philadelphia.

In some sections of our country Capsicum is said to have been proved to be the specific remedy. When the membrane extends into the air passages producing symptoms of croup we very naturally resort to the remedies which have been found most useful in the treatment of true croup Among these the Kali Bichromaticum Bromine Spongia Am. caust. Bryonia & Hepar sulph. stand prominent. When the typhoid condition is marked we have Rhus. Ars. Phos. and the mineral acids. The local applications resorted to have been nearly as numerous as the constitutional Cold water applied by wet cloths about the neck is still used by many and thought to be of service. Others merely wrap the neck warmly in flannels. Some in imitation of their Allopathic brethren have applied directly to the diseased part the Argentum nitricum We have seen it used repeatedly but have never

yet been able to discover any good effect from it.
Gargles of chloride of sodium and chlorate of potassium have also been used The chloride of sodium acts chemically on the membranous exudation dissolving it Another gargle much used by our western brethren is the Hydrastin prepared from the Hydrastus Canadensis Many Homeopathic physicians discard the local applications entirely deeming the application of a local remedy to a constitutional disease as entirely beneath the scientific standard of the Hom. physician We think the applications which like the chloride of sodium have the power to dissolve the membrane are admissable and should be used as by their use we can relieve our patient and give the proper constitutional remedies time to act It is of the utmost importance in the treatment of Diphtheria to sustain the strength of the patient This is very difficult-

especially with children and must be accomplished by the administration of nutritious food or an alcoholic stimulus We have seen patients supported for days on milk punch and egg-nogg and ultimately recover which we are confident they would not have done had the stimulus not been administered

Old school physicians have treated the disease mostly by the use of Calomel and Chlorate of potassa internally and Nitrate of silver Muriate tincture of Iron and Monsells salt locally

As we remarked before proceeding to describe the disease Diphtheria varies greatly in severity in different localities and in this fact lies the secret of the success with which some practitioners have treated the disease For instance Diphtheria makes its appearance in a town or city and the resident Homoeopathic physician treats several hundred cases of it with great success

He has treated nearly every case with the same remedies and having heard and read of the great fatality which has attended the prevalence of the disease in other localities he considers it his duty to publish to the world the great discovery he has made that such and such remedies will cure Diphtheria as he can testify from abundant experience having treated with wonderful success several hundred cases

Of course a treatment which has met with such marked success attracts the attention of observant physicians and when the disease makes its appearance in the locality of one of these having had no experience with the disease himself he adopts the mode of treatment pursued by his successful brother And what is the result He loses every case And thus it goes one practitioner treats the disease with wonderful success with the mere bijordatus another one tries the same remedy in another town and sees no effect whatever

Another has been universally successful with Cantharis, Bell, Causticum Lach, Iodine or something else and his treatment is followed by others with exactly opposite results

The question naturally arises what is the cause of this great difference in the results of treatment. The drug is the same in every place the disease is Diphtheria in every place but in one locality nearly every case will be of the mild form first described every case of which would have recoverd without a particle of medicine while in another locality the disease assumes a malignant character and is uncontrolable by any remedies which have yet been used in the treatment of the disease Nothing which we have yet encountered in the Study of Medicine has so nearly accomplished the utter destruction of all our faith in medicine as our comparatively little experience

in the treatment of Diphtheria We have seen cases treated with remedies apparently as clearly indicated as it is possible for a remedy to be without the least effect in arresting the disease We shall suggest for experimentation but one remedy and that is Chlorine By reference to the treatment of writers on Diphtheria both Allopathic and Homoeopathic it will be seen that nearly all rely on and recommend either Bromine Iodine or the combinations of Chlorine Bromine or Iodine with some other drug For instance Calomel which is a favorite remedy with the old school is the Proto Chloride of Merc. the Chlorate of Potassa which is nearly or perhaps quite as much in favor is a preparation of Chlorie acid and Potassa

The favorite Homoeopathic remedy the Merc. bijodatus a preparation of Iodine and Mercury the Bromide of Potassium which we neglected to mention in the treatment and lastly the prepa-

lar gargle Chloride of Soda. Bromine and Iodine have both been used in the simple form uncombined with other drugs but we have never yet heard of the use of Chlorine

The properties of the three substances are almost identical and it has lately been very reasonably suggested by a chemist whose opinion is worthy of regard that they are one and the same element in allotropic conditions In Chlorine it assumes a gaseous form in Bromine that of a liquid and in Iodine we have the metallic form All three of these substances or forms of the same substance have a marked effect on the mucous membrane of the respiratory apparatus Chlorine in addition to this has a powerful effect on the system at large producing a typhoid condition closely resembling that which occurs in Diphtheria Taking this into consideration we think any

man justified in experimenting with Chlorine in the treatment of Diphtheria and especially so from the fact that no remedy has yet been tried which seems to have any effect in arresting the progress of the malignant form of the disease.

In these remarks on the treatment of the disease we do not wish to be understood as asserting that those physicians who have recommended such and such remedies in the treatment of Diphtheria have not done so in good faith and with the belief that such remedies were the specifics for the disease